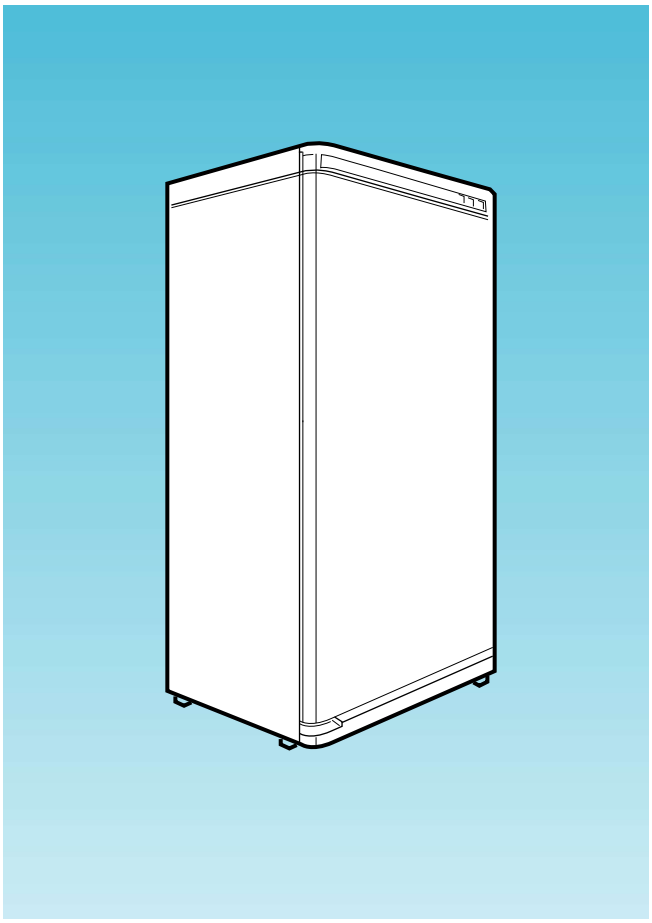
SAMSUNG

Model : SFR-A21NFA

CFC FREE GREEN

SERVICE Manual

REFRIGERATOR



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1. Safety precautions and warnings

Read all instructions before using this appliance in order to avoid risk of accident or possible damage.

Warning/Caution

Warning	This symbol is intended to alert the user to the possible death or injury.
Caution	This symbol is intended to alert the user to the possible injury or damage.

Description of symbols

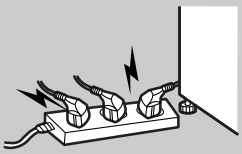
	Indicates prohibition
	Do not disassemble
	Do not contact
	Adhere the instruction strictly
	Unplug from the electrical outlet
	Earth the appliance to avoid the risk of an electric shock

Warning

Do not plug multiple electrical appliances into the same outlet.

- This may cause abnormal heating or a fire hazard.

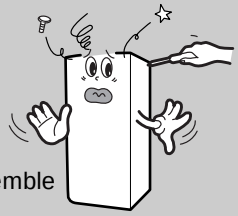
Prohibition



Do not attempt to make repairs yourself.

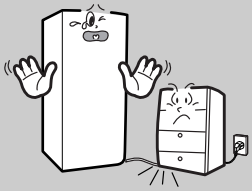
- This could lead to fire hazard or abnormal operation causing severe personal injury.

Do not disassemble



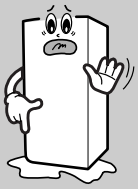
Make sure the power cord is not crushed or damaged.

- Repair immediately all power cords or outlets that have become frayed or otherwise damaged.



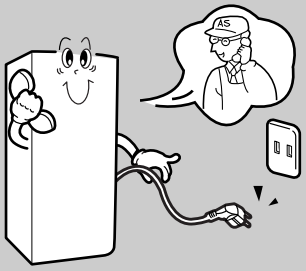
Check the operating environment.

- Do not install the refrigerator in a humid (with condensation) location or on an unstable surface.



Do not use the refrigerator if it is not operating correctly or has been damaged. Disconnect it from the power supply and call your local service center.

- If the power cord is damaged, avoid a hazard by replacing it through the manufacturer or its service agent or a similarly qualified person.



Caution

Do not store bottled food or drinks in the freezing compartment.
- Bottles may explode causing personal injury.

Prohibition

Do not store anything other than food in the refrigerator.
- Medical supplies which need to be under strict temperature control should not be stored in the refrigerator.

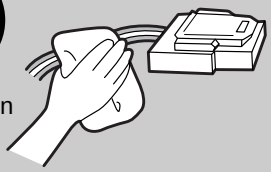
Prohibition

Do not put anything on top of the refrigerator.
- Opening or closing the door may trigger loose items to slip and cause injury.

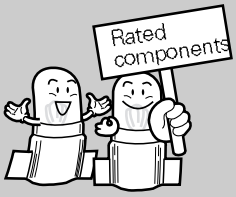
Prohibition

When servicing the refrigerator, completely remove dust or foreign substances from the housing, electric connections and etc.
- This can protect against the risk of fire hazard caused by tracking and short circuit.

Prohibition

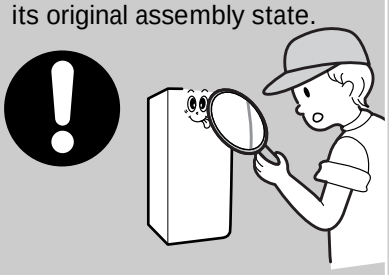


When replacing electric components, be sure to use rated components.
- Check the model, rated voltage, rated current, operating temperature etc. of the component.

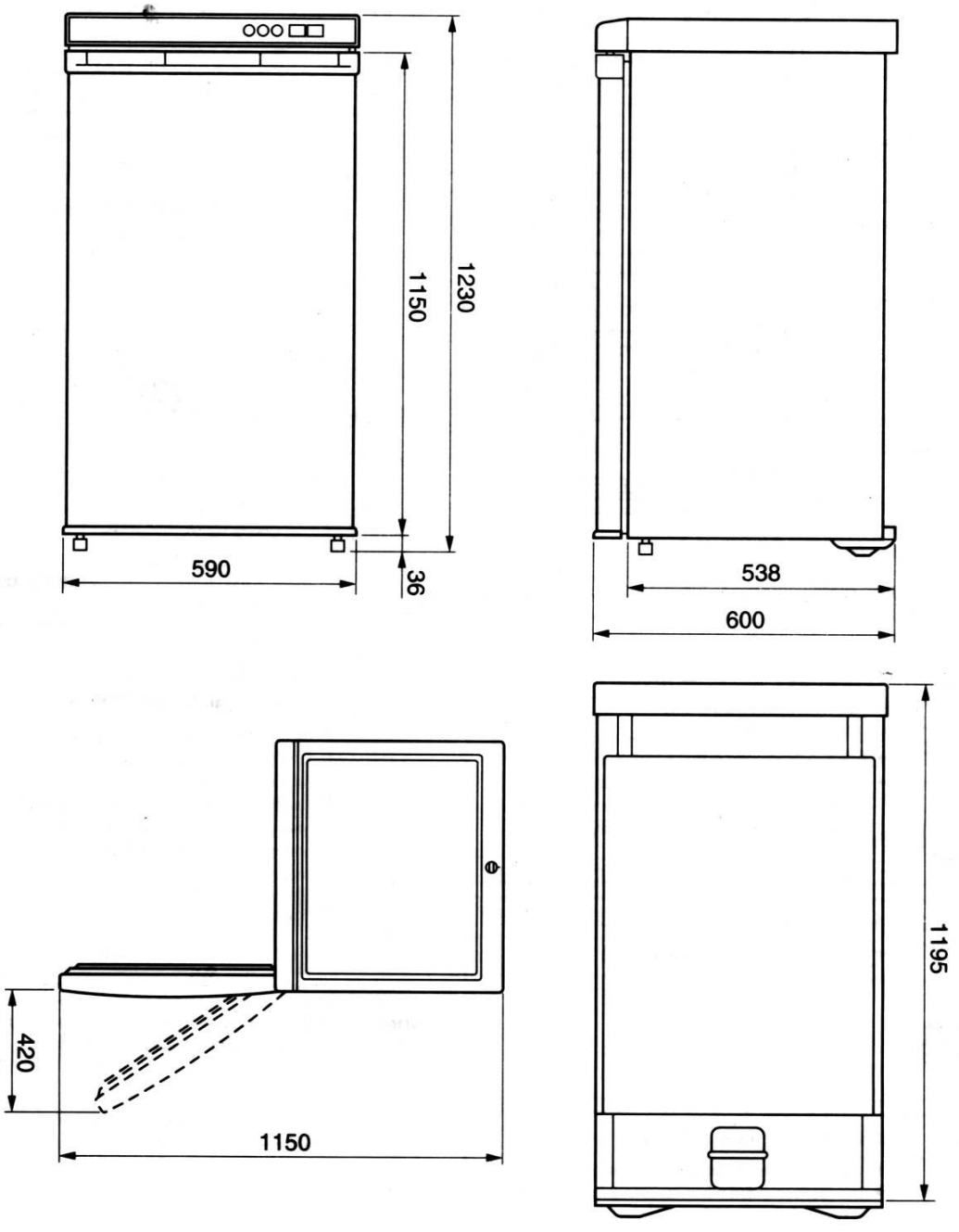


When servicing the refrigerator, completely remove dust or foreign substances from the housing, electric connections and etc.
- This can protect against the risk of fire hazard caused by tracking and short circuit.

After servicing the refrigerator, be sure to check the components are reassembled in a correct manner.
- The serviced unit should be reassembled and returned to its original assembly state.



6. Product Dimension



8. How to replace main components

8-1 Thermostat replacement

(1) Pull the power cord out from the outlet

(2) Open the door and take out the compartments 1 and 2

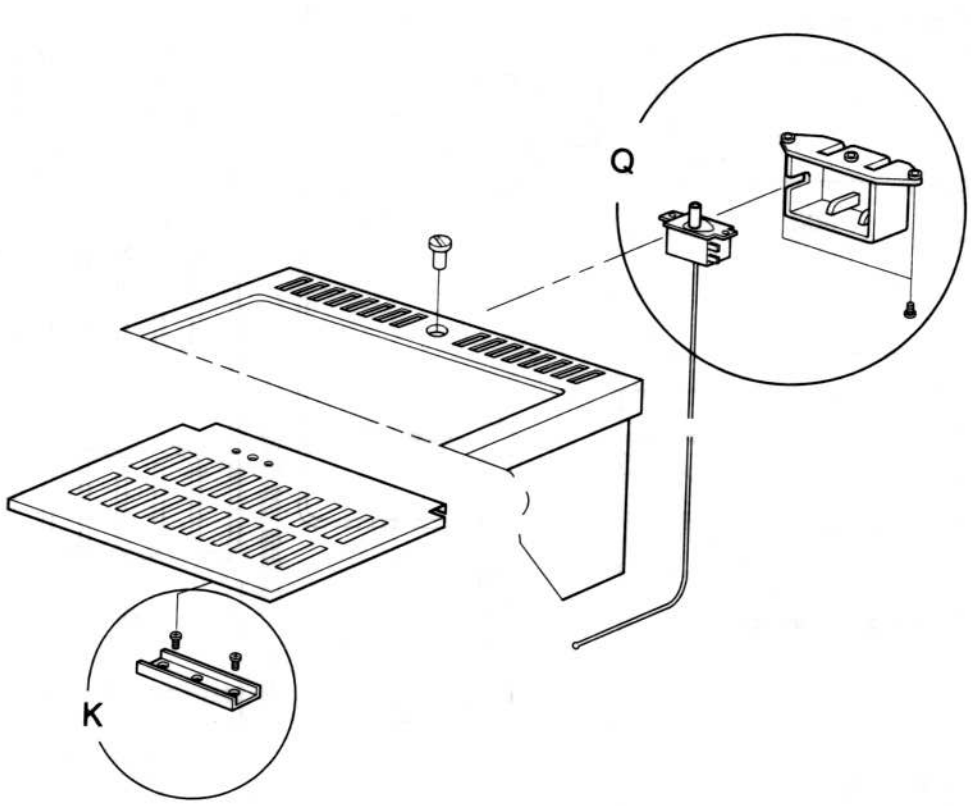
(3) Remove the thermostat sensor (“K” part)

(4) Remove the thermostat box from the back of freezer

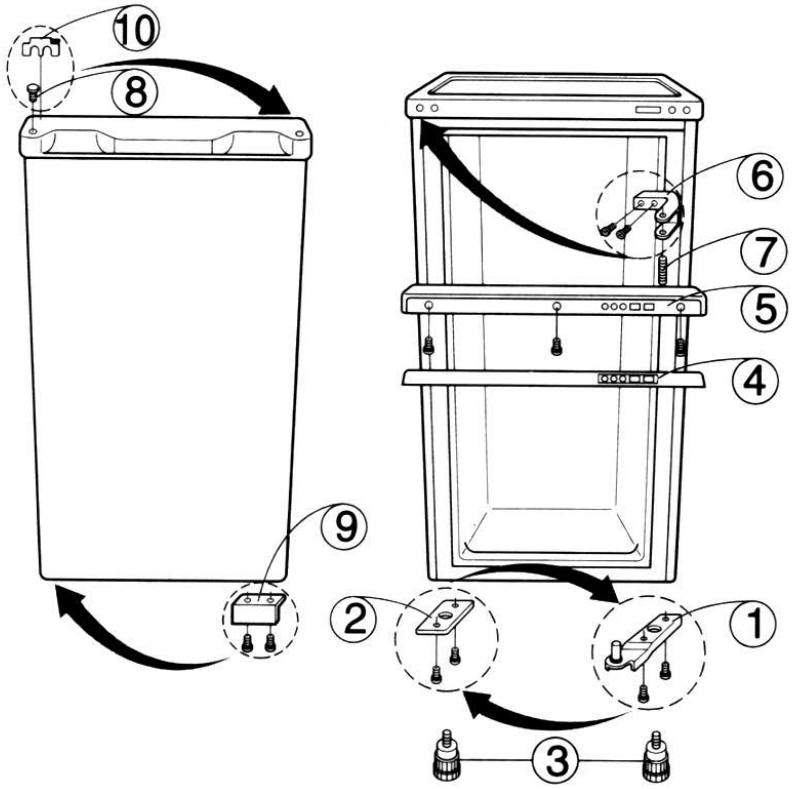
(5) Remove the wire from the thermostat

(6) Disassemble the condenser plate and remove the thermostat from the freezer

(7) Reassemble them in opposite order of disassembly



9. How to change the direction of door open



It enables a user to change the door open direction to right or left according to the location of installation or user's taste. When a consumer buy a freezer, it has installed left.

1 **Take out all frozen food and compartments from the freezer**

2 **Disassemble the door after removing the components (4) (5) (6) (7) in order**

- Remove the door by pulling it up
- When removing the component (6), take care of wire

3 **Disassemble the components (1) (2) (3) after leaning the freezer backward and removing bolts, and exchange and reassemble them.**

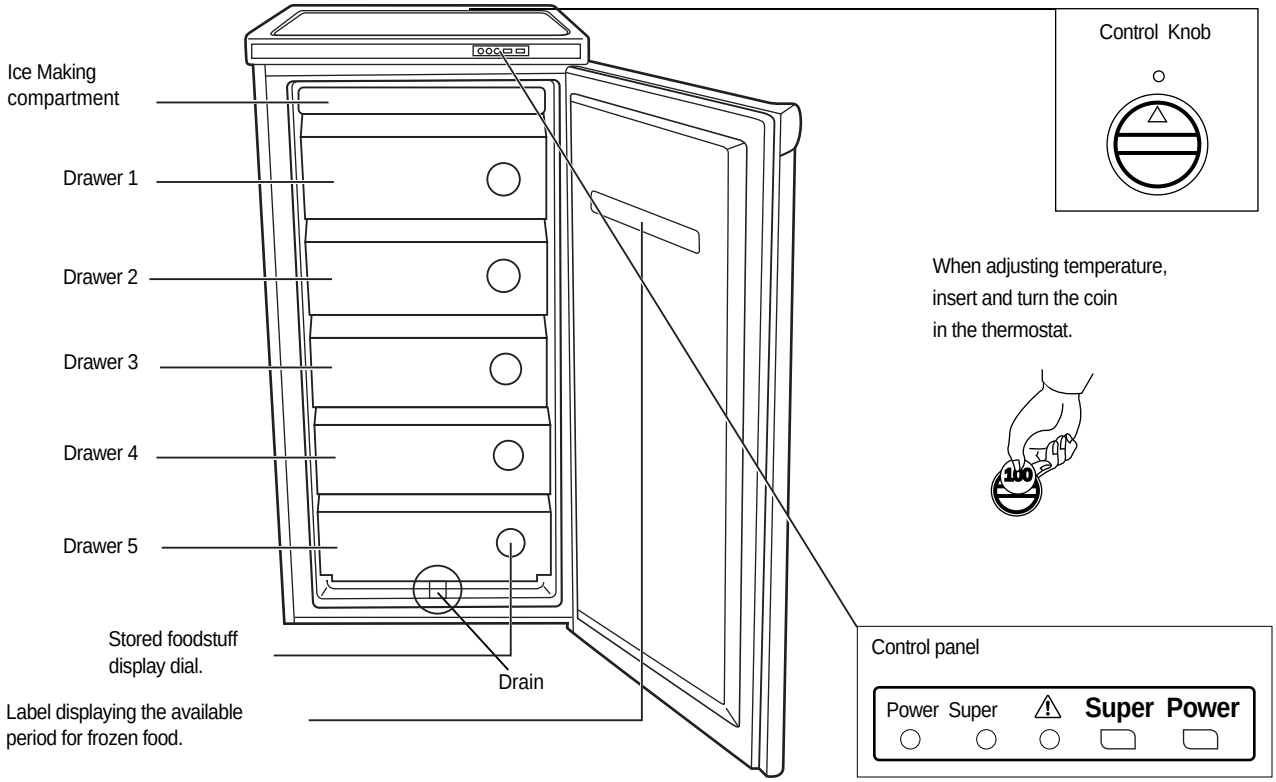
4 **Disassemble the components (8) (9) (10), and reassemble them on the opposite side.**

5 **Reassemble the component (7) to the opposite side screw of component (6), and reassemble the door and the component (6) to its opposite side.**

- At this time door should be balanced.

6 **Reassemble the components (5) and (4) in order**

5. Product structure & Temperature adjustment



Colder

If the freezer does not cooling well and the amount of frozen food is much

- Turn the thermostat to the end of the right.
- It is recommended to use when the temperature is high like summer. When the room temperature is high, the temperature of freezer is also high.

Normal

It is recommended at normal status

- Adjust the thermostat to the center.

Cold

If the amount of frozen food is small

- Turn the thermostat to the end of the left
- It is recommended when the amount of foodstuff is small like spring, fall and winter.

Stop

It you do not want to use the (this) unit

- Turn the power off by pressing the power button
- All of the front display lamps are out.
- They should be confirmed.
- Turn the power on in more than 5 minutes after power-off(If the power is immediately turned on after power-off, trouble could be caused by operation by force.

Power

Super

If the amount of frozen food is much, quick ice making or quick freezing is required.

- Press the super freezing H button (Yellow display lamp is on)
- Turn it off by pressing the button when the inside of freezer is frozen fully. Power consumption can be reduced.

Super

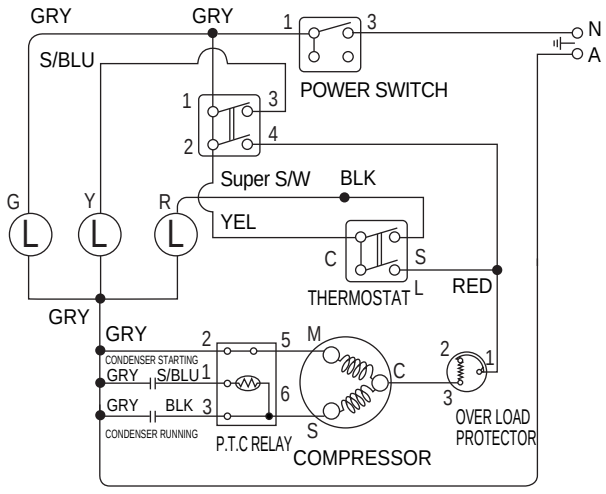
2. Product Specifications

ITEM	SPECIFICATION
Model name	SFR-A21NFA
Net Capacity	180λ
Net dimension(Width x length x height)	590mm×600mm×1230mm
Rated voltage & frequency	110V / 60Hz, 220V / 50~60Hz
Type of freezer	Direct cooling type
Refrigerant	R-134a
Refrigerant package amount	130gr

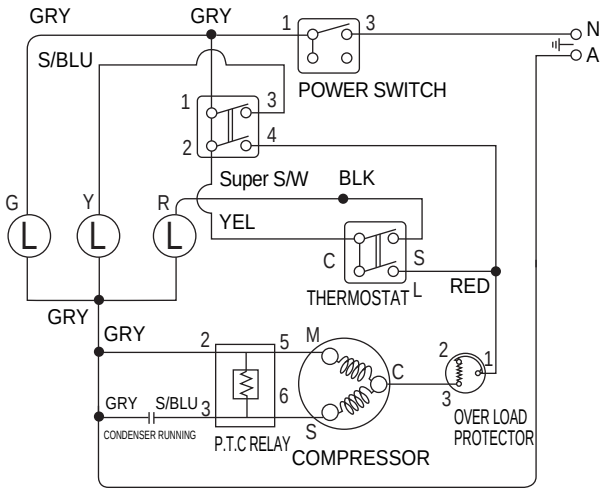
3. Circuit Diagram

MODEL NAME : SFR-A21NFA

Power : 110V / 60Hz

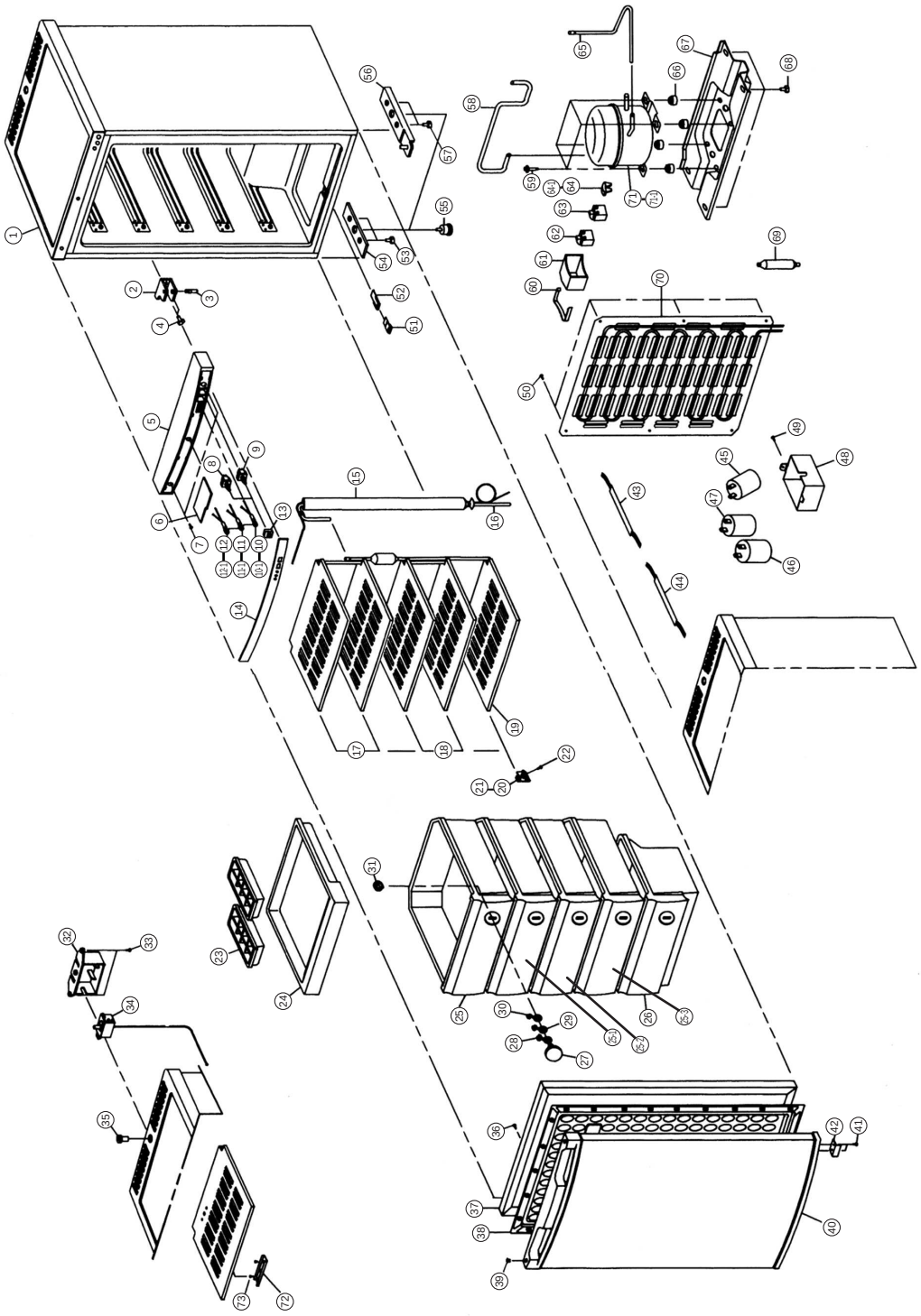


Power : 220V / 50~60Hz



GRY : GRAY **YEL : YELLOW** **BLK : BLACK** **RED : RED** **S/BLU : SKY BLUE**

10. Exploded view & parts list



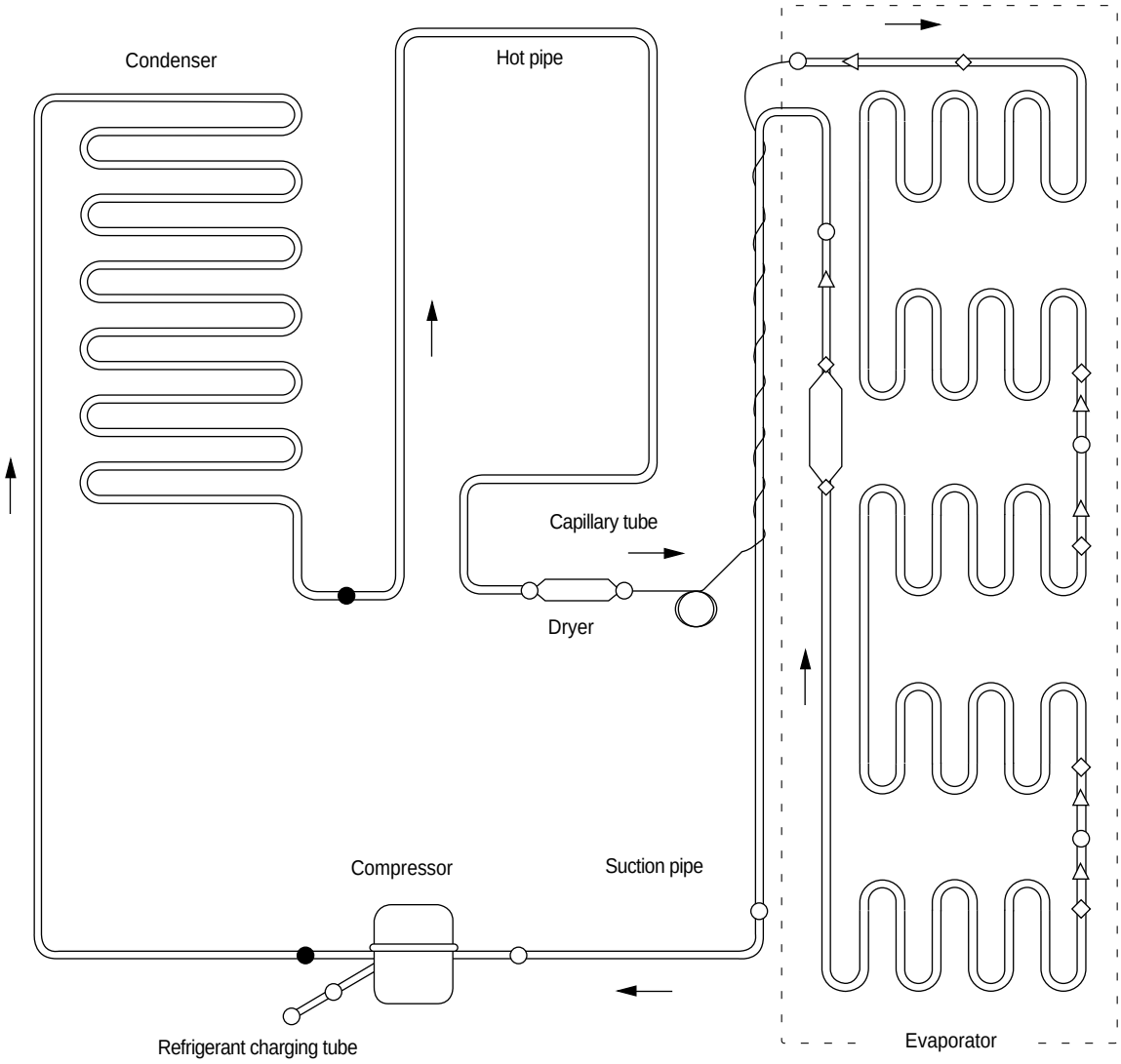
NO	CODE-NO	PART	SPEC	Q'TY	REMARK
1	4A18ABRW10001	ASSY-CABI FOAM	SFR-A21NFA PEARL-WHITE	1.0	
2	DA61-10134A	HINGE(UP)	SCP1-T2.5 ZPC3	1.0	
3	DA66-20109A	SHAFT-HINGE(UP)	SM30+ZPC3 H35.5	1.0	
4	DA60-10122B	SCREW-TAP TITE	HM 5x16 + TSFE FZY	2.0	
5	DA63-10004A	TABLE-FRONT	ABS H40 L590.5	1.0	
6	DA63-10446A	COVER-FRONT TOP	ABS	1.0	
7	6002-000470	SCREW-TAP, TH	1-4X10 FE, FZY	3.0	
8	DA34-10123A	SWITCH-PUSH ON/OFF	SP160A 250V/3A DAESUNG	1.0	
9	DA34-10123B	SWITCH-PUSH SUPER	SP260K 250V/3A DAESUNG	1.0	
10	4713-000210	ASSY-NEON LAMP	220V RED	1.0	
10-1	4713-001096	ASSY-NEON LAMP	110V RED	1.0	
11	4713-000211	ASSY-NEON LAMP	220V YEL	1.0	
11-1	4713-001093	ASSY-NEON LAMP	110V YEL	1.0	
12	4713-000208	ASSY-NEON LAMP	220V GRN	1.0	
12-1	4713-001094	ASSY-NEON LAMP	110V GRN	1.0	
13	DA64-40003A	BUTTON	ABS SFR-A21NFA	2.0	
14	DA68-50129A	INLAY-TOP TABLE	GPPS T3 TRP SFR-A21NFA	1.0	
15	DA72-60323E	INSULATION TUBE	FOAM-PE 0D23 ID13 L850	1.0	
16	DA73-10369H	ASSY-SUCT PIPE	SFR-A21NFA, 0.72/2800	1.0	
17	DA59-40136A	ASSY-EVAP(UP)	SFR-A21NFA	1.0	
18	DA59-40135A	ASSY-EVAP(MD)	SFR-A21NFA	1.0	
19	DA59-40137B	ASSY-EVAP(LW)	SFR-A21NFA ACCUMULATOR	1.0	
20	DA71-40114A	STOPPER-TRAY(L)	NY6 T1.5	5.0	
21	DA71-40115A	STOPPER-TRAY(R)	NY6 T1.5	5.0	
22	6002-000470	SCREW-TAP, TH	1-4X10 FE, FZY	10.0	
23	DA67-40146B	TRAY-ICE	PE SC-93437R	2.0	
24	DA67-40125A	TRAY-ICE TRAY	HIPS T2.0 W9540	1.0	
25	DA67-40123A	TRAY(UP)	HIPS T3 W9540 NO1	1.0	
25-1	DA67-40123B	TRAY(UP)	HIPS T3 W9540 NO2	1.0	
25-2	DA67-40123C	TRAY(UP)	HIPS T3 W9540 NO3	1.0	
25-3	DA67-40123D	TRAY(UP)	HIPS T3 W9540 NO4	1.0	
26	DA67-40124A	TRAY(LW)	HIPS T3 W9540 NO5	1.0	
27	DA64-40107A	KNOB	ABS	5.0	
28	DA71-70007A	INDICATOR(A)	ABS	5.0	
29	DA71-70008A	INDICATOR(B)	ABS	5.0	
30	DA71-70009A	INDICATOR(C)	ABS	5.0	
31	DA67-30201A	CAP-DIAL	ABS T2.0	5.0	
32	DA67-10179A	ENCLOSURE-THERMO	ABS SFR-A21NFA	1.0	
33	6002-000470	SCREW-TAP, TH	1-4X10 FE, FZY	2.0	
34	DA47-10110A	THERMOSTAT	250V/5A SFR-A21NFA	1.0	
35	DA64-40106A	KNOB-DIAL	ABS SFR-A21NFA	1.0	
36	6002-000470	SCREW-TAP, TH	1-4X10 FE, FZY	30.0	

Indicated part is for electrical safety components

NO	CODE-NO	PART	SPEC	Q'TY	REMARK
37	DA63-30177A	ASSY-GASKET DOOR	SFR-A21NFA	1.0	
38	DA72-20132A	PANEL-DOOR	ABS T1.2	1.0	
39	DA67-30227A	CAP-SCREW, HOLE	ABS	1.0	
40	DA91-10102A	ASSY-DOOR FOAM	SFR-A21NFA	1.0	
41	6002-000453	SCREW-TAP, FH	1-4x12 STS304	2.0	
42	DA71-40132A	STOPPER-DOOR	SCP1 + ZPC3 T2 W20.5 L43	1.0	
43	*DA39-20258A	ASSY-LEAD WIRE RELAY	SFR-A21NFA, 220~240V/50	1.0	
44	*DA39-20265A	ASSY-LEAD WIRE RELAY	SFR-A21NFA 110V	1.0	
45	*2501-000511	CAPACITOR-RUNNING	SFR-A21NFA, 250VAC/12μF-110V	1.0	
46	*2501-000422	CAPACITOR-STARTING	SFR-A21NFA, 125VAC/100μF-110V	1.0	
47	*2501-000427	CAPACITOR-RUNNING	220~240V150 350VAC/35μF	1.0	
48	DA67-10176B	ENCLOSURE-SPLICE	SBHG1 T0.8	1.0	
49	6002-000470	SCREW-TAP, TH	1-4x10 FE, FZY	2.0	
50	6002-000470	SCREW-TAP, TH	1-4x10 FE, FZY	6.0	
51	DA74-30149A	DRAIN-FRE	ABS W9540 SFR-A21NFA	1.0	
52	DA74-30150A	DRAIN-FRE(B)	ABS W9540 SFR-A21NFA	1.0	
53	DA60-10120A	SCREW-TAP TITE	ZPC2-Y 6X16 SR-53EA	1.0	
54	DA71-10265A	REINF-HINGE LOW	SCP1 + ZPC3 T2.5 L92	1.0	
55	DA61-30110A	LEG-ASSY	NY6 + MSWR10 PI28 H46	2.0	
56	DA61-10135A	HINGE-LOW	SCP1 T2.5 ZPC3	1.0	
57	DA60-10120A	SCREW-TAP TITE	ZPC2-Y 6X16 SR-53EA	4.0	
58	DA73-10139A	TUBE-CONNECT SUCT	C1220BD-0 0D6.35 TO.5	1.0	
59	DA60-20008B	BOLT-HEX COMP	SM30C L46.6	4.0	
60	DA65-20113A	CLAMP-RELAY COVER	SK-5	1.0	
61	DA63-10722A	COVER-RELAY	P.P V451	1.0	
62	DA35-10003D	PTC·RELAY	PTHAS-T330M 385D 220V	1.0	
63	DA35-10003H	PTC·RELAY	PTHAS-T100M 200B 110V	1.0	
64	DA34-10003V	O/L PROTECTOR	4TM 265RHBYY-53 220V	1.0	
64-1	DA34-10003R	O/L PROTECTOR	4TM 427PHBYY-53 110V	1.0	
65	DA73-10140A	TUBE-CONNET DISCG	0D4.76 T0.5	1.0	
66	DA63-40143A	GROMMET-COMP	NBR BLK H31.8	4.0	
67	DA71-60113A	CHASSIS-COMP:SBHG1	SBHG1 T1.2 SFR-A21NFR	1.0	
68	DA60-10120A	SCREW-TAP TITE	ZPC2-Y 6x16	4.0	
69	DA73-30105B	DRYER	5.0 Gr	1.0	
70	DA73-10312A	ASSY-SUB CONDENSER	SFR-A21NFA	1.0	
71	*SD162H-LIU	COMPRESSOR	SD162H-LIU : 220V/50~60Hz	1.0	
71-1	*SD162C-LIW	COMPRESSOR	SD162C-LIW : 110V/60Hz	1.0	
72	DA65-20116A	CLAMP-THERMO	AL	1.0	
73	6002-000453	SCREW-TAP, FH	1-4x12 STS304	2.0	

Indicated part is for electrical safety components

7. Refrigerant Gas Circulation Diagram



(Kinds of welding)

- ● : 25% silver solder welding
- ○ : 0% silver solder welding
- △ : FLASH BUTT welding (Al+Cu)
- ◇ : ARGON welding (Al+Al)

4. Specifications of Electric Components

ITEM			SPECIFICATIONS		
Model name			SFR-A21NFA		
Capability of freezer			✳ *** (4 STAR)		
Net Weight			53 kg		
Freezing components	Compressor	Model name	SD162C-LIW	SD162H-LIU	
		Rated Voltage & Frequency	110V/60Hz	220V/50~60Hz	
		Starting type	CSR	RSCR	
		Oil	FREOL α15C 200cc		
	Cooler		PIPE CAULKING TYPE		
	Condenser		CLUSTER TYPE(HOT-LINE BUILT-IN)		
	Dryer		MOLECULARSIEVE		
	Capillary tube		5.7/12Kg/cm², 2.5m		
	Refrigerant		R-134a		
Electric Components	Model	Dial location	ON(˚C)	OFF(˚C)	WARNING ON/OFF
	Thermostat	Colder	–24.6 ±2	–30.4 ±2	–18.5 ±2
		Normal	–20.5 ±1.5	–25.5 ±1.5	–15.0 ±2
		Cold	–16.3 ±2	–20.7 ±2	–12.7 ±2
	Starting Relay	Model name	PTHAS-T100M200B	PTHAS-T330M385D	
		Operation	10Ω ±20%	33Ω±20%	
	Overload Relay	Model name	4TM427PHBYY-53	4TM265RHBYY-53	
		On temp	69 ±9˚C	69 ±9˚C	
		Off temp	125 ±5˚C	125 ±5˚C	
	Capacitor	Running	250VAC/12μF	350VAC/3.5μF	
		Starting	125VAC/100μF	-	
	Earth Screw	Specifications	BSBN(BRASS SCREW) M4x10		